

SECTION II

POV MECHANICAL STANDARDS

C-5. DEFINITIONS

1958 Geneva Agreement

The Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of These Prescriptions (available at <http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>).

1997 Vienna Agreement

The 1997 Vienna Agreement Concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections.

Economic Commission for Europe regulation (ECE-R)

A regulation annexed to the 1958 Geneva Agreement.

inappropriate repair or modification

A repair or modification that adversely affects the road safety of the vehicle.

international technical inspection certificate

A certificate about the first registration after manufacture and the periodical technical inspections of wheeled vehicles in compliance with Article 1 and appendix 2 of the 1997 Vienna Agreement (above).

periodical technical inspection

A procedure by which authorized technical inspection centers responsible for conducting inspection tests declare, after carrying out required verifications, that wheeled vehicles conform to established requirements.

verification

Proof of compliance with established requirements through tests and checks carried out using techniques and equipment currently available, and without the use of tools to dismantle or remove any part of the vehicle.

wheeled vehicle

Motor vehicles of categories M2, M3, N2, and N3, and trailers of categories O3 and O4, as specified in the Consolidated Resolution on the Construction of Vehicles (R.E.3) (<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdoc/78r1a2e.pdf>), used in international transport whose permissible maximum mass exceeds 3,500 kilogram, except those used to carry passengers and having not more than eight seats in addition to the driver's seat.

C-6. GENERAL

- a. POVs must meet the minimum standards of exterior condition considered acceptable according to German requirements. POVs that have deficiencies (for example, missing grill or fenders; broken windows; extensive body damage; deteriorated tailgates, engine covers, trunk lids, or running boards) will be rejected.
- b. POVs will be rejected for any other reason not covered in this publication that could cause loss of life or limb, or render the vehicle unsafe to operate. Another inspector or the inspector's supervisor may be asked to provide a second opinion in these cases.
- c. Receipts for ordered replacement parts will not be acceptable substitutes for repairs required to

meet mechanical standards in this appendix except when the part does not pose an immediate safety hazard (for example, cracked lens of a turn-signal light).

d. POV inspectors will not use sharp instruments (for example, screwdrivers, tire tools, razor blades) when checking for body or frame rust or other body condition. Only hand pressure or a small rubber mallet may be used.

e. The inspector may pass a vehicle with minor defects such as inoperable license-plate light, parking light, back-up light, or lens with small cracks. The defects will be documented on the POV inspection form (AE Form 190-1H or AE Form 190-1I), and the owner will be told to have the deficiencies corrected. If a vehicle is found to have both major defects and minor defects, all defects must be corrected before reinspection.

C-7. BODY

a. Vehicles with major alterations to the frame (for example, bent, cut, rewelded) must have a U.S. Department of Transportation (DOT) or *Technischer Überwachungsverein (TÜV)* certification.

b. Spoilers attached to vehicles must meet the manufacturer's installation specifications. Homemade spoilers or spoilers that do not meet the manufacturer's specifications will be grounds for rejection.

c. Minimum body ground clearance must not be less than 8 centimeters for flexible body parts such as ground-effect spoilers or air dams and 11 centimeters for hard parts such as exhaust, frame components, and suspension.

C-8. ENGINE AND TRANSMISSION

a. The vehicle will be rejected if there is evidence of an ongoing slow leak of oil or antifreeze or saturation of the underbody of the vehicle. If there is evidence of a slow leak, the undercarriage must be cleaned and reinspected to verify whether or not there is still a slow leak. The vehicle will be rejected if there is an excessive leak. An excessive leak is any leak that allows fluid to drop from the vehicle onto the ground while the vehicle is being inspected.

b. Vehicles with automatic transmissions that start when the gearshift lever is in gear will be rejected.

c. A vehicle will be rejected if the gearshift of the vehicle can be placed into reverse gear without engaging the lock-out mechanism on both automatic and standard transmission vehicles.

d. A vehicle will be rejected if the clutch shows evidence of slipping.

C-9. PAINTING AND MARKING

a. Painting or markings resembling those normally used on U.S. Government-owned vehicles and markings that might associate a POV with a foreign government are prohibited.

b. After-market luminous paintings or markings may be used only on the rear of a POV.

C-10. LIGHTS

a. Fog lights are not required. If fog lights are installed, they must be operational.

b. Installation of any of the following types of lighting is prohibited:

(1) White, amber, or any other color lights behind the grill for the purpose of lighting up the grill unless equipped by the manufacturer.

(2) Lights in the wheel wells, under fenders, under the body, or behind the tires.

(3) Additional lighting in or around the vehicle windshield, windows, or rear window that does

not enhance vehicle safety. Vehicles must not have more than two original or additional stoplights affixed in the rear window.

(4) Decorative lighting around the license plate; and parking, marking, and fog lights of colors other than white or amber as provided by the manufacturer.

c. Headlight height (measured from the center of the headlight to the ground) less than 56 centimeters or higher than 137 centimeters will be grounds for rejection.

C-11. MIRRORS

a. Each passenger car must have an inside rearview mirror and an outside rearview mirror of unit magnification on the driver's side. The inside mirror must provide a maximum field of view 200 feet (61 meters) to the rear of the vehicle on a level road surface. The outside mirror must provide the driver with a view of a level road surface extending 8 feet (2.5 meters) from the tangent plane 35 feet (11 meters) behind the driver's eyes.

b. The mirror mounting must provide a stable support for the mirror and allow for mirror adjustment by tilting in both the horizontal and vertical directions. Neither the outside mirror nor the mirror mounting may protrude farther than the widest part of the vehicle body except to the extent necessary to produce a field of view meeting or exceeding the requirements in subparagraph a above.

c. A two-wheeled motor vehicle must be equipped with two rearview mirrors. Each mirror must be mounted with a stable support so that the horizontal center of the reflective surface is at least 11 inches (275 millimeters) outward of the longitudinal centerline of the motorcycle. The mirrors must be adjustable by tilting in both the horizontal and vertical directions.

d. Right-hand drive vehicles must have a left- and a right-side mirror.

e. Mirrors must not be discolored, cracked, or broken.

f. Vehicles with rear tinted windows missing one or both exterior mirrors will be grounds for rejection.

C-12. SEATBELTS

a. Passenger cars manufactured to U.S. specifications after 1 January 1968 must comply with Federal Standard 208 (49 Code of Federal Regulations). Federal Standard 208 requires a seatbelt for each forward-facing seat position or passive protection at all positions (for example, buses with padded seats).

b. All vehicles made to foreign specifications or American vehicles made before 1 January 1968 must be equipped with at least a lap belt for the driver and front-seat passenger positions.

c. If a vehicle is designed and equipped with a customized kit including single point-mounted chairs (captain's chairs), all of the chairs must be equipped with at least a lap belt.

C-13. STEERING SYSTEMS

a. A vehicle will be rejected if the centrifugal velocity boot is torn or indicates evidence that it is slinging grease from being torn, split, or dry-rotted. Special attention should be shown to the brake pad area to ensure that a torn boot has not contaminated the pads with grease or the drive shaft universal joint has not been compromised by a lack of grease.

b. A vehicle will be rejected if the steering wheel lock does not function properly.

c. A vehicle will be rejected if the steering wheel or steering column has in-and-out, sideways, or up-and-down play. Adjustable steering-wheel columns must lock positively in all adjustment positions in accordance with the manufacturer's specifications.

C-14. BRAKES

a. Brake-test machines will be used when operational. When brake-test machines are not operational, a road test will be conducted. POVs that have been altered (lowered) to an extent that prevents enough ground clearance to safely enter and exit the brake-test machine without causing damage to the spoilers, exhaust, or suspension will be road tested (b below). Refusal of the POV owner to permit a road test of the POV will result in the immediate termination of the inspection.

b. Road tests will be conducted on a level (not to exceed plus or minus 1 percent grade), dry, smooth, hard-surfaced road that is free of loose material, oil, and grease. Tests will be restricted to a designated area in the vicinity of the inspection station. The service brake will be applied and the vehicle will be brought to a stop as follows:

(1) Vehicles With a Gross Vehicle Weight Rating (GVWR) of 10,000 Pounds (4,500 Kilograms) or Less. The service brake system must stop the vehicle in a distance of 25 feet (7.6 meters) or less from a speed of 20 miles per hour (mph) (32 kilometers per hour (kph)) without leaving a 12-foot (3.7 meters) wide lane.

(2) Vehicles With a GVWR of More Than 10,000 Pounds (4,500 Kilograms). The servicebrake system must stop single-unit vehicles, except truck-tractors, in a distance of not more than 35 feet (10.6 meters), and combination vehicles and truck-tractors in a distance of not more than 40 feet (12 meters), from a speed of 20 mph (32 kph) without leaving a 12-foot (3.7 meters) wide lane.

c. Motorcycles, trikes, and quads must have a split-service brake system or two independently activated service-brake systems. The equipment-brake tests will be conducted by the owner under the supervision of the POV inspector.

NOTE: Tire inflation pressure should be within the limits recommended by the tire manufacturer before either the brake-machine test or road test is conducted.

C-15. TIRES AND RIMS

a. The tread depth of the vehicle tires must be at least 1/16 of an inch (1.6 mm). Inspectors will use a tread-depth gauge at any two adjacent major grooves at three areas spaced approximately equally around the outside of the tire. If at any point the tire tread is less than 1/16 of an inch (1.6 mm), the tire is excessively worn. Tires must be free of chunking, breaks, bumps, knots, or bulges showing cord or tread separation from the casing or other adjacent materials. The use of re-grooved tires is prohibited. Tire cords or belting materials must not be exposed to the naked eye or when cuts or abrasions on the tire are probed.

b. Spare tires, including emergency space-saving tires, will be subject to inspection and must meet the same standards as all other tires on the vehicle. Any condition likely to cause injuries to personnel or faulty component parts (for example, excessively worn tires, deeply cut or exposed cords, cracked rubber, flat tire, missing spare tire) will be grounds to fail the POV during the inspection. POV owners must be advised that if they have a defective spare tire or missing spare tire while traveling on the autobahn, they will be in violation of German traffic law and could be fined. Newer-model POVs with no-flat safety, self-inflating tires that do not come equipped with a spare tire are exempt from this requirement.

c. Spinning rims attached to vehicles are prohibited and will cause the vehicle to be rejected.

- d. POVs with tires that extend beyond the outermost portion of the fender well when viewed from above are not authorized and will be rejected.
- e. A tire rim must not be bent, cracked, have elongated bolt holes, or have any indication of repair by welding. Tire and rim combinations other than those recommended by the manufacturer will cause the POV to be rejected. Wheel nuts and bolts must be in place and tight.
- f. German law requires that vehicles have “adequate tires” for winter driving. This means that in high-snow areas, vehicles must have snow tires mounted. In areas not regarded as “snow prone,” the use of all-season tires with an M/S label or a snowflake label are acceptable. Vehicle owners should check with an authorized tire dealer for any unique restrictions in their area. Winter tires should have a tread depth of at least 3 millimeters.

C-16. EXHAUST SYSTEM

- a. The exhaust system must be secured tightly and free of leaks. Tailpipes must extend behind the rear wheels or beyond the side edge or rear of the vehicle body unless prevented by the manufacturer’s specifications.
- b. A POV may be rejected if it emits excessive blue or black smoke.
- c. All parts of the exhaust line must be strong enough to resist normal hand pressure applied by the inspector. All repairs to exhaust systems must be made by welding or component replacement. Repairs using muffler or exhaust tape or chemical weld compounds (for example, liquid metal) are meant as temporary repairs and will not be accepted. Securing attachments must be present, tight, and similar to original manufacturer parts.

C-17. AIRBAGS

Vehicles equipped with airbags must have the airbags operational. A vehicle will be rejected if the light that indicates the airbag has been activated stays illuminated or is missing.

C-18. MOTORCYCLES

- a. Inspectors will reject motorcycles that have been altered to change the center of gravity or wheelbase from that established by the manufacturer. Motorcycles with alterations hazardous to other highway users (for example, missing chain-guards or fenders) will be rejected. Motorcycles with aftermarket, straight-through exhaust pipes and motorcycles with original mufflers that have the sound absorber removed will be rejected. Steel wool and other like material will not be used in lieu of factory baffles to pack mufflers for sound dampening.
- b. After-market installed turn-signal lights must meet the following requirements:
 - (1) Front turn-signal lights must be positioned 100 millimeters from the edge of the headlight, 170 millimeters from each other (from the edge of the turn-signal lights), and 350 millimeters above the ground (from the low edge of the turn-signal light). Front turn-signal lights must be amber.
 - (2) Rear turn-signal lights must be positioned 120 millimeters from each other (from the edge of the turn-signal lights) and 350 millimeters from the low edge of the turn-signal light to the ground. Rear turn-signal lights may be amber or red.
- c. Motorcycles with factory-installed amber running lights that are on when the engine is running are authorized.

C-19. QUADS AND TRIKES (LIGHT MOTOR VEHICLE)

a. Quads and trikes must be equipped with the following items as prescribed by the *Straßenverkehrs-Zulassungs-Ordnung (StVZO)* (Road Traffic Licensing Regulation) and recommended manufacturer's specification:

- (1) One headlight with high- and low-beam if the vehicle has a width of 100 centimeters or less.
- (2) Two headlights with high- and low-beam if the width of the vehicle exceeds 100 centimeters.
- (3) One taillight if the vehicle has a width of 100 centimeters or less.
- (4) Two taillights if the width of the vehicle exceeds 100 centimeters.
- (5) License-plate light (rear).
- (6) Turn signals and four-way flasher.
- (7) Two stoplights.
- (8) Signal horn.
- (9) Back-up light if the quad is equipped with a reverse gear.
- (10) Mirror outside left and right.
- (11) Front and rear fenders.
- (12) Speedometer.
- (13) Seatbelts for each seat when equipped by the manufacturer.

b. A quad may be equipped with a separate front and rear brake system similar to motorbikes.

c. Quads and trikes must carry a warning triangle and first-aid kit. Operators must wear the same protective clothing and equipment as motorcycle riders (para 5-6b(6)).

d. Quads and trikes over 400 kilograms net weight must be equipped with a reverse gear.

C-20. TRAILER-TOWING VEHICLES

a. Trailer-towing vehicles must be equipped with—

- (1) Electrical receptacles for connecting trailer lights (taillights, directional lights, and stoplights).

This does not apply to class A, A1, and M vehicles when the taillights, directional lights, and stoplights of the towing vehicle can be clearly seen over the towed trailer.

- (2) Two outside rearview mirrors that enable the driver to see beyond the towed trailer or camper.

b. Commercially designed trailer hitches must be attached to the vehicle framework for vehicles towing trailers with a gross weight (trailer weight including load) of more than 2,000 pounds (900 kilograms). The hitches must be attached to the vehicle according to the manufacturer's specifications.

C-21. TRAILERS

a. Commercially manufactured and homemade trailers must be registered. For homemade trailer frames, the shape of the metal frame structural parts must be U, I, L, or box. The frame must support the intended load without bending or swaying. Commercial axles and suspension-system components capable of supporting loaded trailers must be used. The suspension system must support the intended load without swaying or dipping.

b. Trailer wheels must be covered or equipped with fenders that prevent trailer tires from throwing objects into the path of following vehicles.

- c. Trailer taillights, directional lights, stoplights, and reflectors must meet the same requirements as those for the towing vehicle. This does not apply to trailers towed by class A, A1, and M vehicles when the taillights, directional lights, and stoplights of the towing vehicle can be clearly seen over the towed trailer. The trailer-light system must match the towing vehicle electrical system (1-circuit or 2-circuit system) and have reflective triangles (6 inches (15 centimeters) on each side) mounted as close to the outer edges as possible.
- d. The owner is responsible for the strength of all welds and bolts used for attachments on homemade trailers. All nuts must be secured with lock washers or cotter pins.
- e. The trailer hitch or coupling must be of commercial make.
- f. Trailers with commercial tandem axles are acceptable.
- g. Brakes are required on trailers when the gross weight exceeds 1,650 pounds (750 kilograms) or one-half of the weight of the towing vehicle. The owner must provide verified written proof of gross weight and have a date plate attached to the frame that displays the serial number, verified gross weight, and maximum payload weight. Trailers that exceed 1,650 pounds (750 kilograms) gross weight must be equipped with brakes and a safety chain or cable that would engage the brakes if the trailer became detached.
- h. A trailer brought in for inspection must be accompanied by the vehicle that will tow it. This will allow the inspector to check for proper connections, mountings, and compatibility.

C-22. WINDOW TINTING

Only window tinting manufactured within the glass by the manufacturer of the vehicle is authorized.

After-market clear or tinted film is prohibited. Vehicles found with after-market tinting during inspection will be rejected.